

FIG. 1

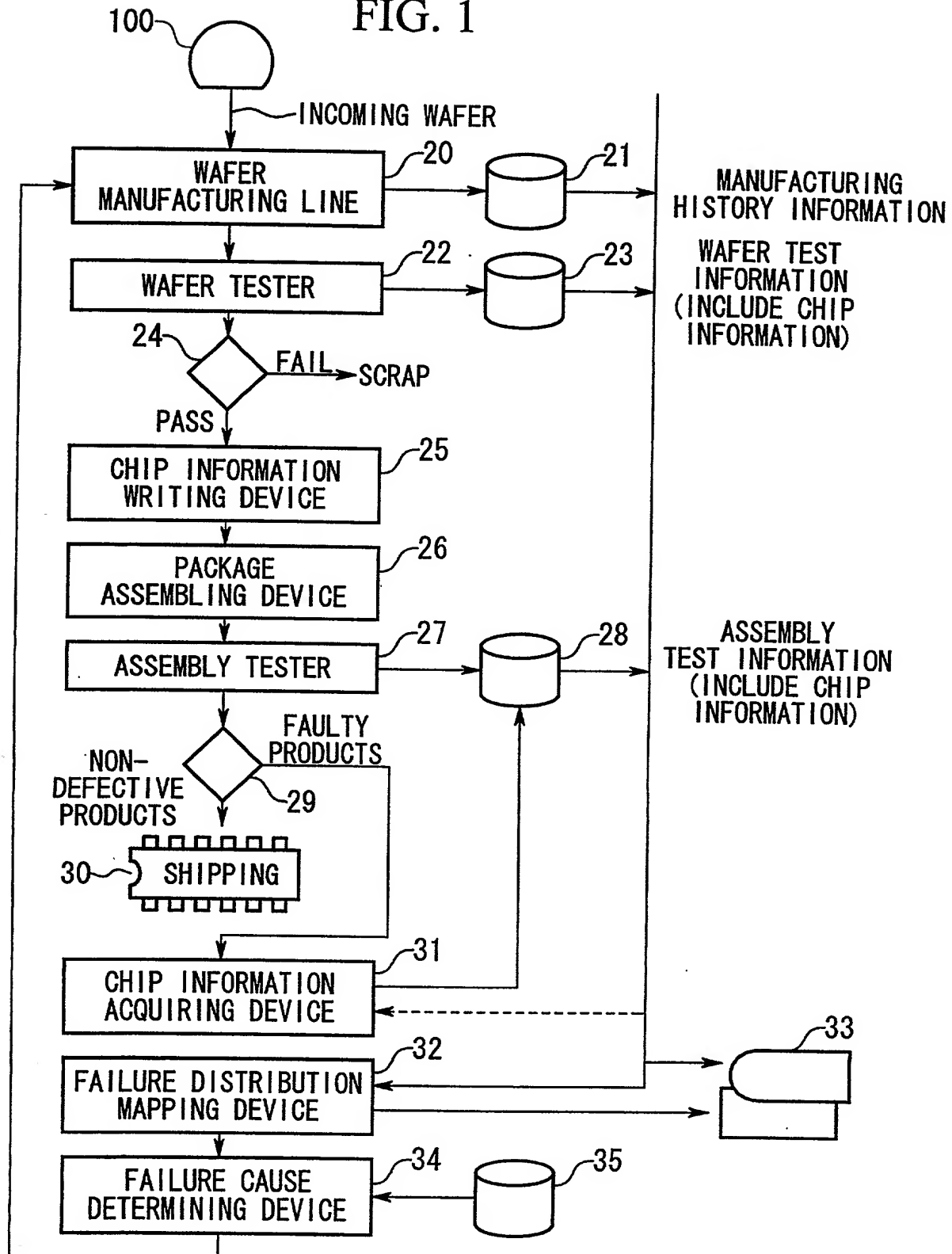


FIG. 2

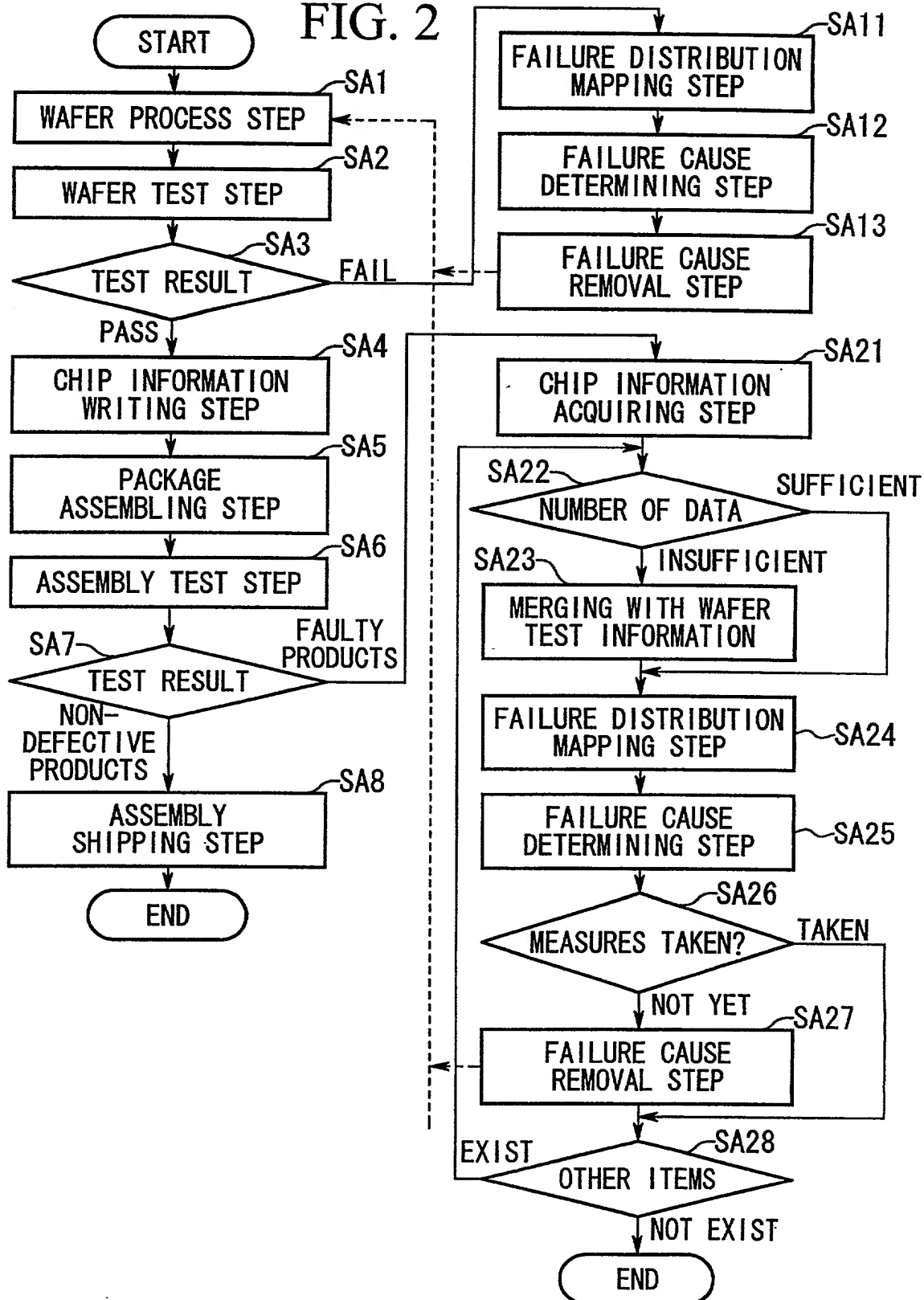


FIG. 3

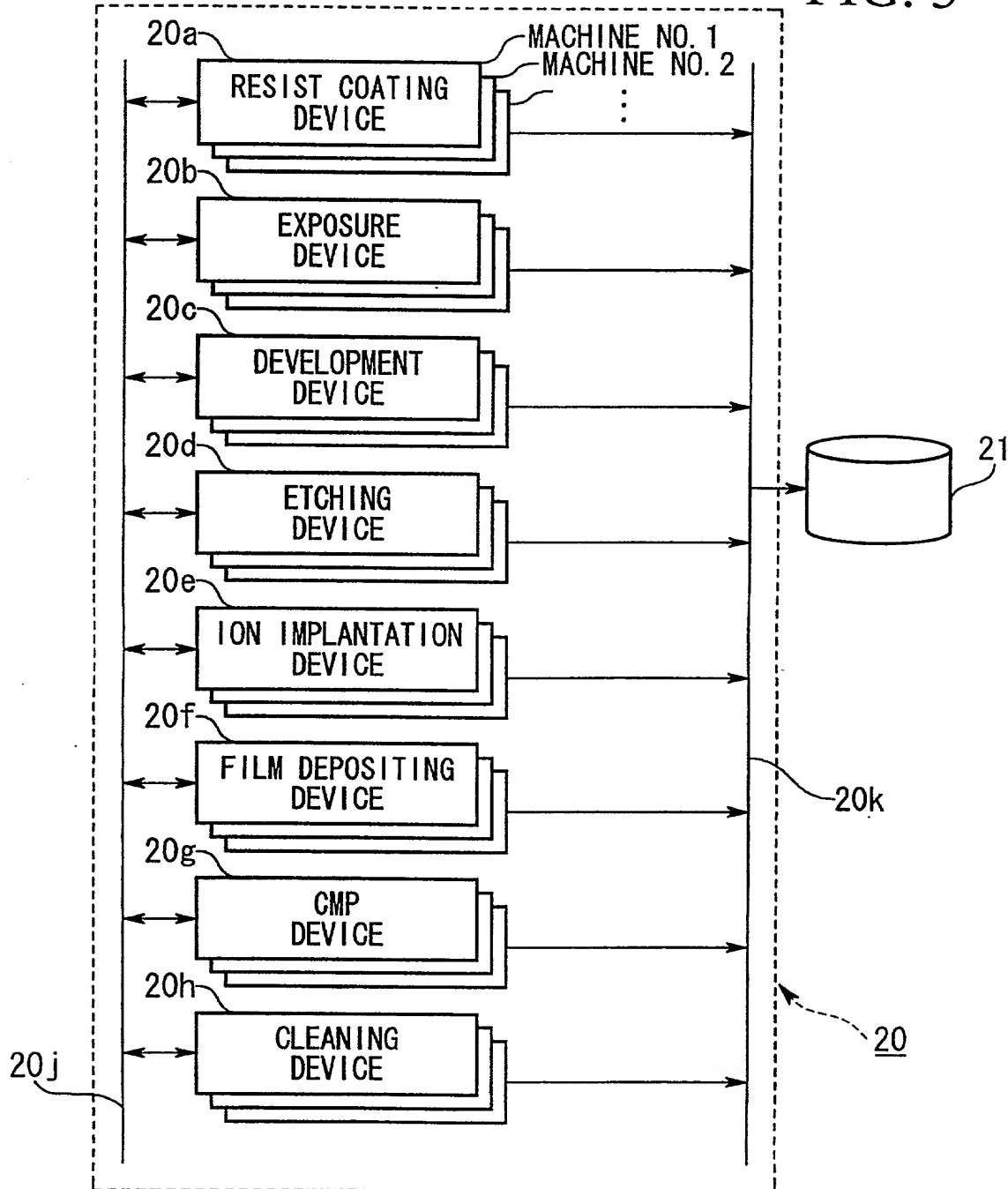


FIG. 4

PRODUCT NAME	LOT NUMBER	WAFER NUMBER	STEP NAME	MANUFACTURING TIME AND DATE	MANUFACTURING MACHINE NO.	MANUFACTURING CONDITION
UPD123	CB95-3030	W01	STEP A	20000101	MACHINE NO. H5	5021
			STEP B	20000102	MACHINE NO. L3	4791
			:	:	:	:
		W02	STEP A	20000101	MACHINE NO. H6	5021
			STEP B	20000102	MACHINE NO. L7	4791
			:	:	:	:
:	:	:	:	:	:	:

FIG. 5

PRODUCT NAME	LOT NUMBER	WAFER NUMBER	CHIP NUMBER	TEST ITEM	TEST TIME AND DATE	TEST MACHINE NUMBER	TEST CONDITION	TEST RESULT	JUDGMENT RESULT
UPD123	CB95 -3030	W01	C06, 31	ITEM A	20000103	MACHINE NO. T4	7252	28	PASS
				ITEM B	20000103	MACHINE NO. T4	5834	PASS	
				:	:	:	:	:	
			C06, 32	ITEM A	20000103	MACHINE NO. T4	7252	34	FAIL
				ITEM B	20000103	MACHINE NO. T4	5834	FAIL	
:	:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:	:

←— WAFER CHIP INFORMATION —→ —→ WAFER TEST INFORMATION —→

FIG. 6A

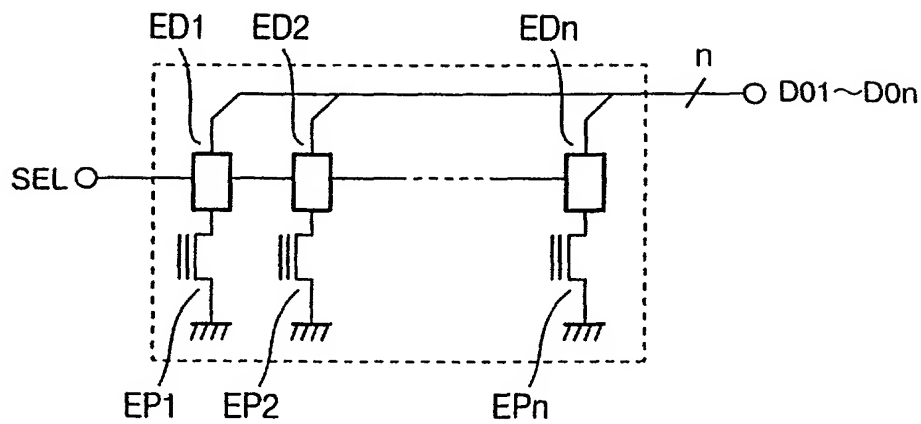


FIG. 6B

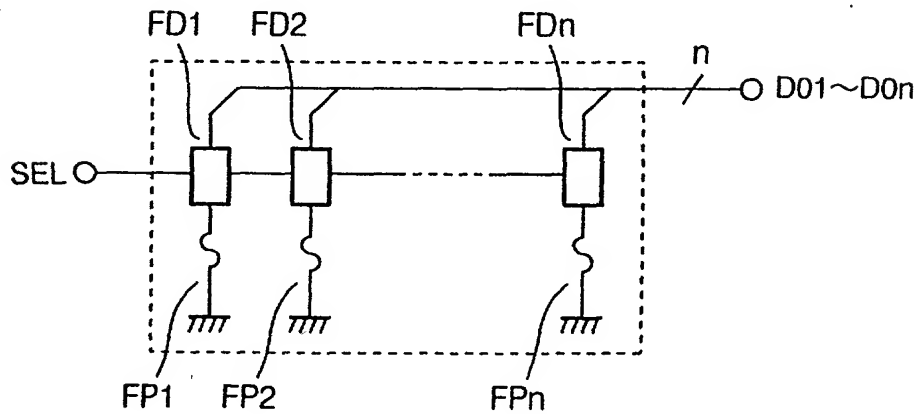


FIG. 7

PRODUCT NAME	LOT NUMBER	ASSEMBLY LOT NUMBER	WAFER NUMBER	CHIP NUMBER	SAMPLE NUMBER	TEST ITEM	TEST TIME AND DATE	TEST MACHINE NUMBER	TEST CONDITION	TEST RESULT	JUDGMENT RESULT
UPD123	CB95 -3030	35ER-008	W01	C06, 31	007	ITEM K	20000107	MACHINE NO. H2	7251	27	FAIL
						ITEM L	20000107	MACHINE NO. H2	5832	FAIL	
						:	:	:	:	:	
						ITEM K	20000107	MACHINE NO. H2	7251	26	PASS
						ITEM L	20000107	MACHINE NO. H2	5832	PASS	
:	:	:	:	:	:	:	:	:	:	:	:
						:	:	:	:	:	:
						:	:	:	:	:	:

← ASSEMBLY CHIP INFORMATION → ASSEMBLY TEST INFORMATION →

FIG. 8

FROM STEP SA22 OR SA23

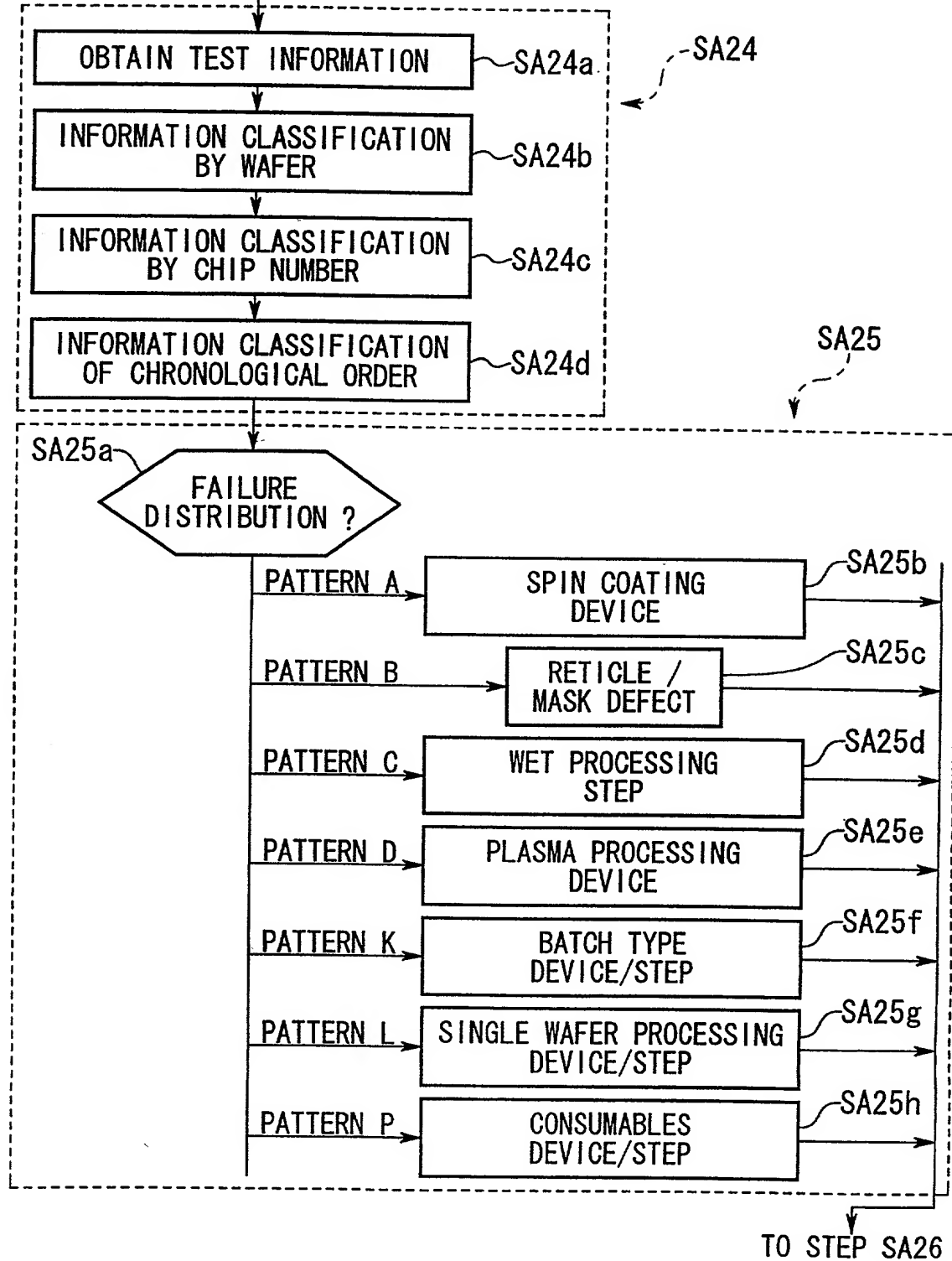




FIG. 9

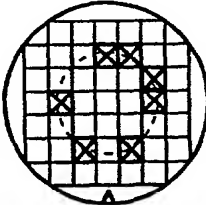
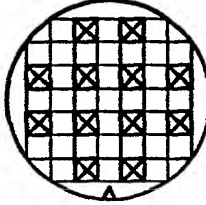
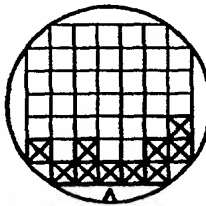
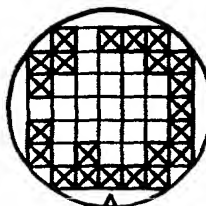
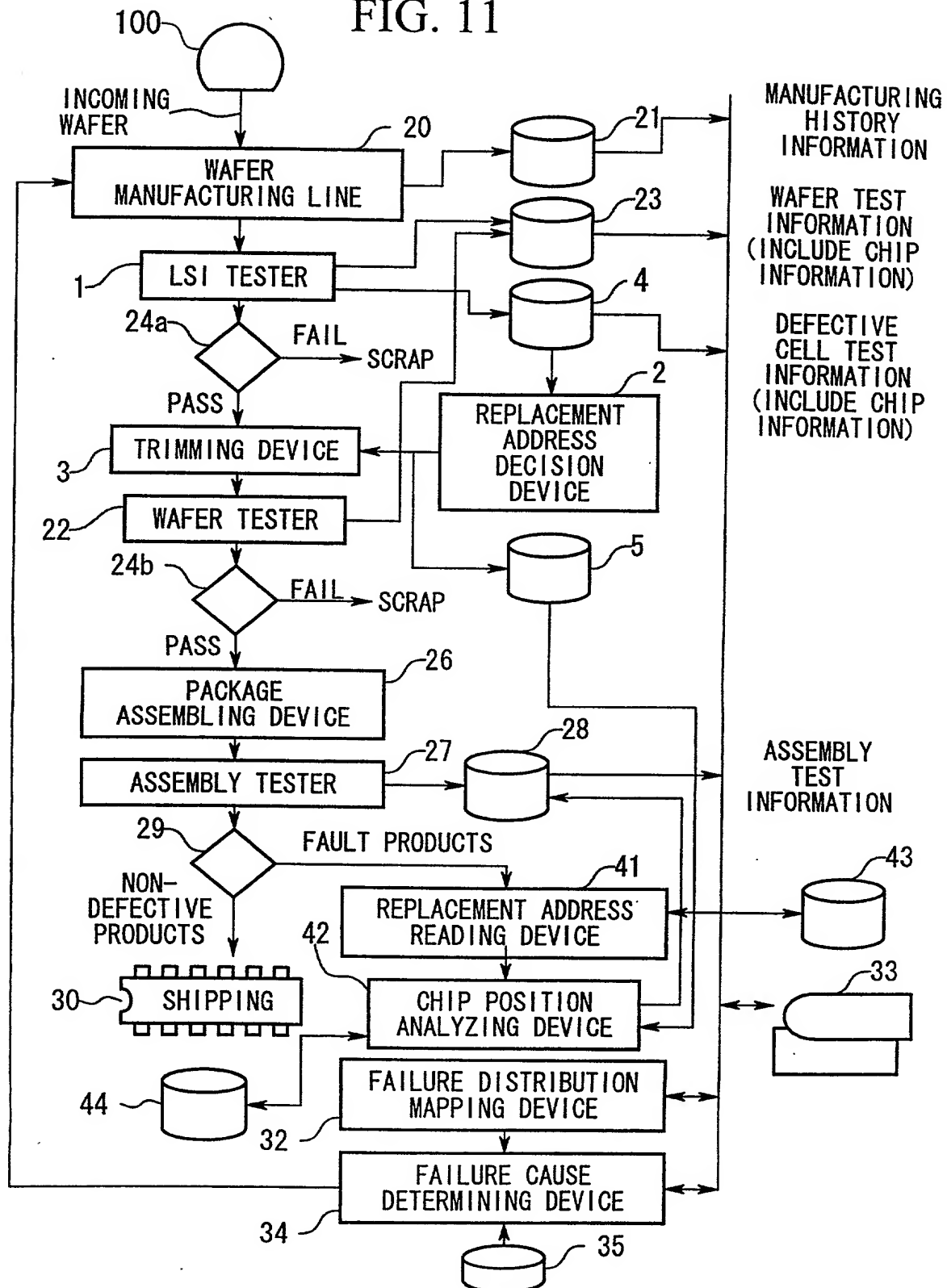
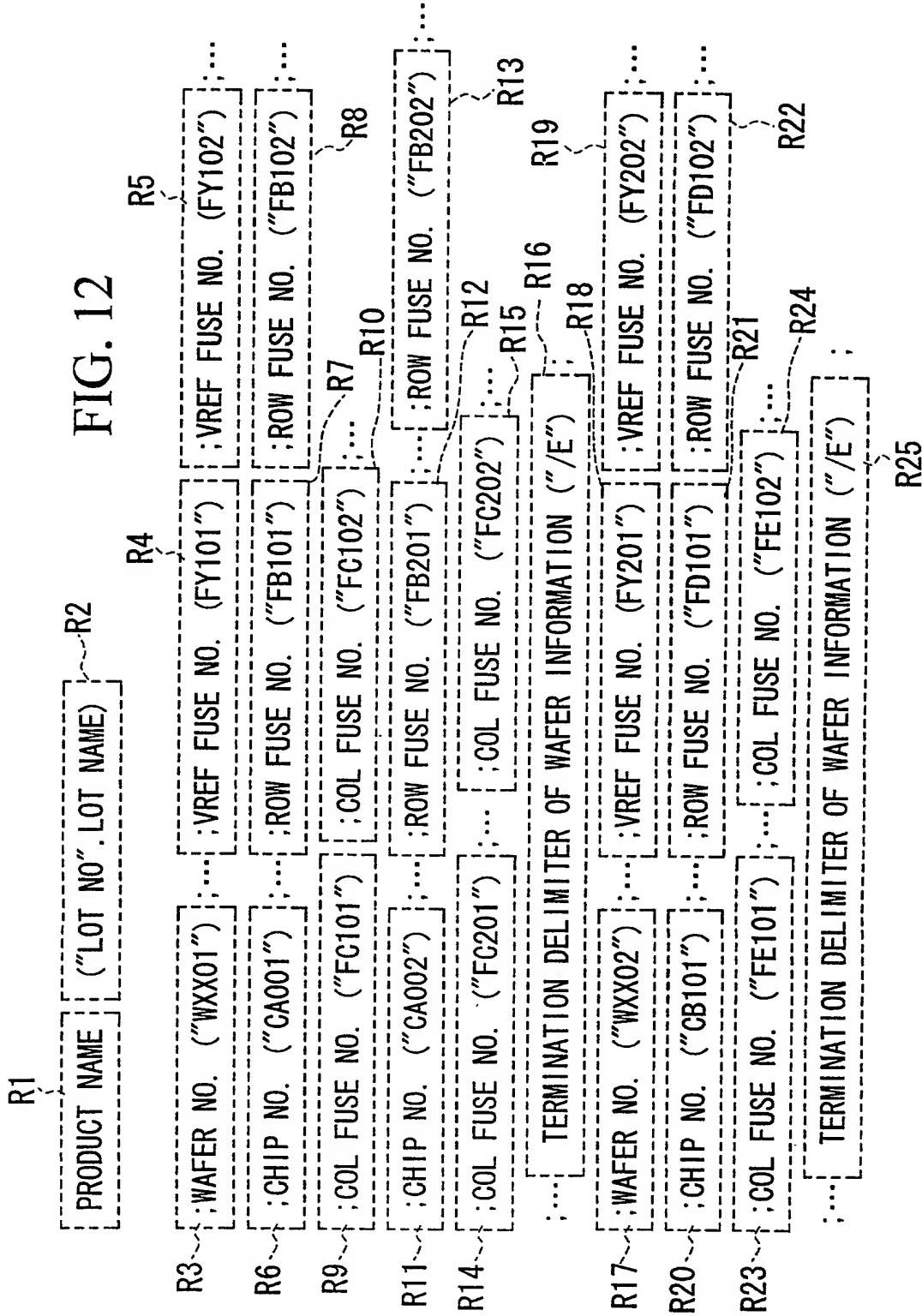
	FAILURE DISTRIBUTION PATTERN	FAILURE CAUSE	IMPROVEMENT AREA
A		WHEN PROCESSING SOLVENT IS COATED ON ROTATING WAFER, LIQUID LEFT IN NOZZLE DRIPS AND MAKES FILM THICKNESS INCONSISTENT, AND HENCE CONTACT FAILURE OCCURS.	<ul style="list-style-type: none"> <li>• RESIST COATING DEVICE</li> <li>• SOG FILM DEPOSITING DEVICE</li> </ul>
B		WHEN A PLURALITY OF CHIPS IS EXPOSED AT THE SAME TIME IN RETICLE, IF A PART OF RETICLE IS DEFECTIVE, FAILURES OCCUR AT A SPECIFIC LOCATION IN EACH EXPOSURE.	<ul style="list-style-type: none"> <li>• RETICLE</li> </ul>
C		WHEN VERTICALLY MOUNTED WAFER IS IMMERSSED IN PROCESSING LIQUID, DIFFERENCE IN PROCESSING TIME OCCURS BETWEEN UPPER AND LOWER PART OF THE WAFER, AND HENCE FAILURES OCCUR CONCENTRATED IN THE UPPER PART OR LOWER PART.	<ul style="list-style-type: none"> <li>• WET ETCHING DEVICE /STEP</li> <li>• BATCH TYPE CLEANING DEVICE /STEP</li> </ul>
D		IN THE PLASMA ETCHING DEVICE, ELECTRIC FIELD BECOMES INCONSISTENT IN THE PERIPHERY OF THE WAFER, AND HENCE FAILURES OCCUR IN THE PERIPHERY OF THE WAFER.	<ul style="list-style-type: none"> <li>• PLASMA PROCESSING DEVICE</li> </ul>
⋮	⋮	⋮	⋮

FIG.10

FAILURE DISTRIBUTION PATTERN		FAILURE CAUSE	IMPROVEMENT AREA
K		IN BATCH TYPE PROCESS STEP, PROCESSING LIQUID /GAS BECOMES INCONSISTENT BETWEEN THE FIRST WAFER AND THE SECOND AND LATER WAFERS SO THAT FAILURES OCCUR FREQUENTLY ONLY ON THE FIRST WAFER.	<ul style="list-style-type: none"> <li>•BATCH TYPE WET ETCHING DEVICE/STEP</li> <li>•BATCH TYPE THERMAL DIFFUSION DEVICE/STEP</li> <li>•BATCH TYPE THERMAL OXIDATION DEVICE/STEP</li> <li>•FURNACE TUBE</li> </ul>
P		IN A SPECIFIC TEST ITEM AND MANUFACTURING DEVICE, IF THERE IS ABRASION AND THE LIKE IN THE EQUIPMENT, FAILURE RATE INCREASES OVER TIME.	<ul style="list-style-type: none"> <li>•VACUUM PACKING EQUIPMENT</li> <li>•OBSCOLESCENCE OF LIQUID IN PROCESS WITH RECIRCULATING ETCHING LIQUID</li> <li>•SENSITIVITY OF SENSOR DROP</li> </ul>

FIG. 11

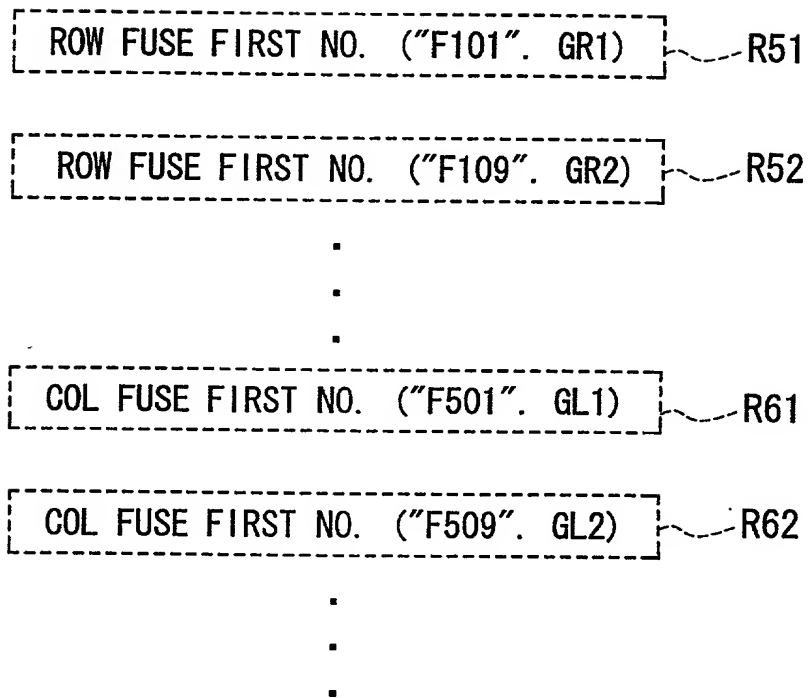




RR



FIG. 14



## FIG. 15

PRODUCT NAME  
LOT NAME ("LOT NO", CB95-3030)  
WAFER NO. ("W0001")  
VREF FUSE NO. ("FY101")  
VREF FUSE NO. ("FY102")  
:  
CHIP NO. ("CA001")  
ROW FUSE NO. ("F101")  
ROW FUSE NO. ("F103")  
ROW FUSE NO. ("F106")  
ROW FUSE NO. ("F108")  
ROW FUSE NO. ("F110")  
ROW FUSE NO. ("F113")  
ROW FUSE NO. ("F114")  
ROW FUSE NO. ("F115")  
:  
COL FUSE NO. ("F501")  
COL FUSE NO. ("F503")  
COL FUSE NO. ("F506")  
COL FUSE NO. ("F507")  
COL FUSE NO. ("F509")  
COL FUSE NO. ("F512")  
COL FUSE NO. ("F514")  
COL FUSE NO. ("F516")  
:  
TERMINATION DELIMITER OF WAFER INFORMATION ("/E")  
:

FIG. 16

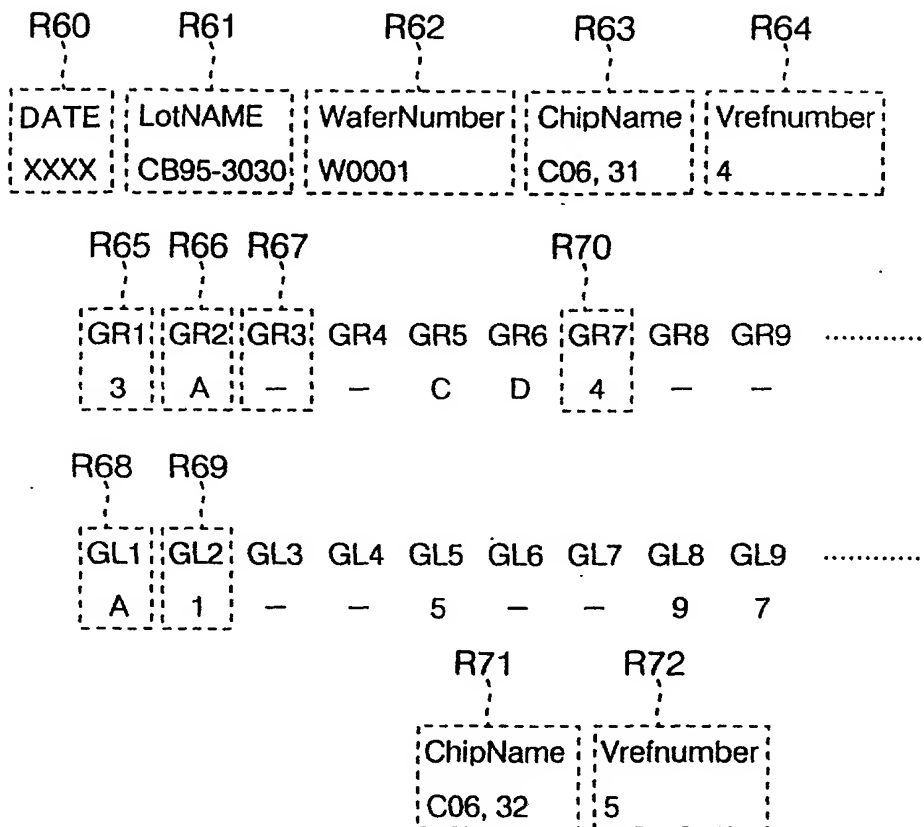




FIG. 17

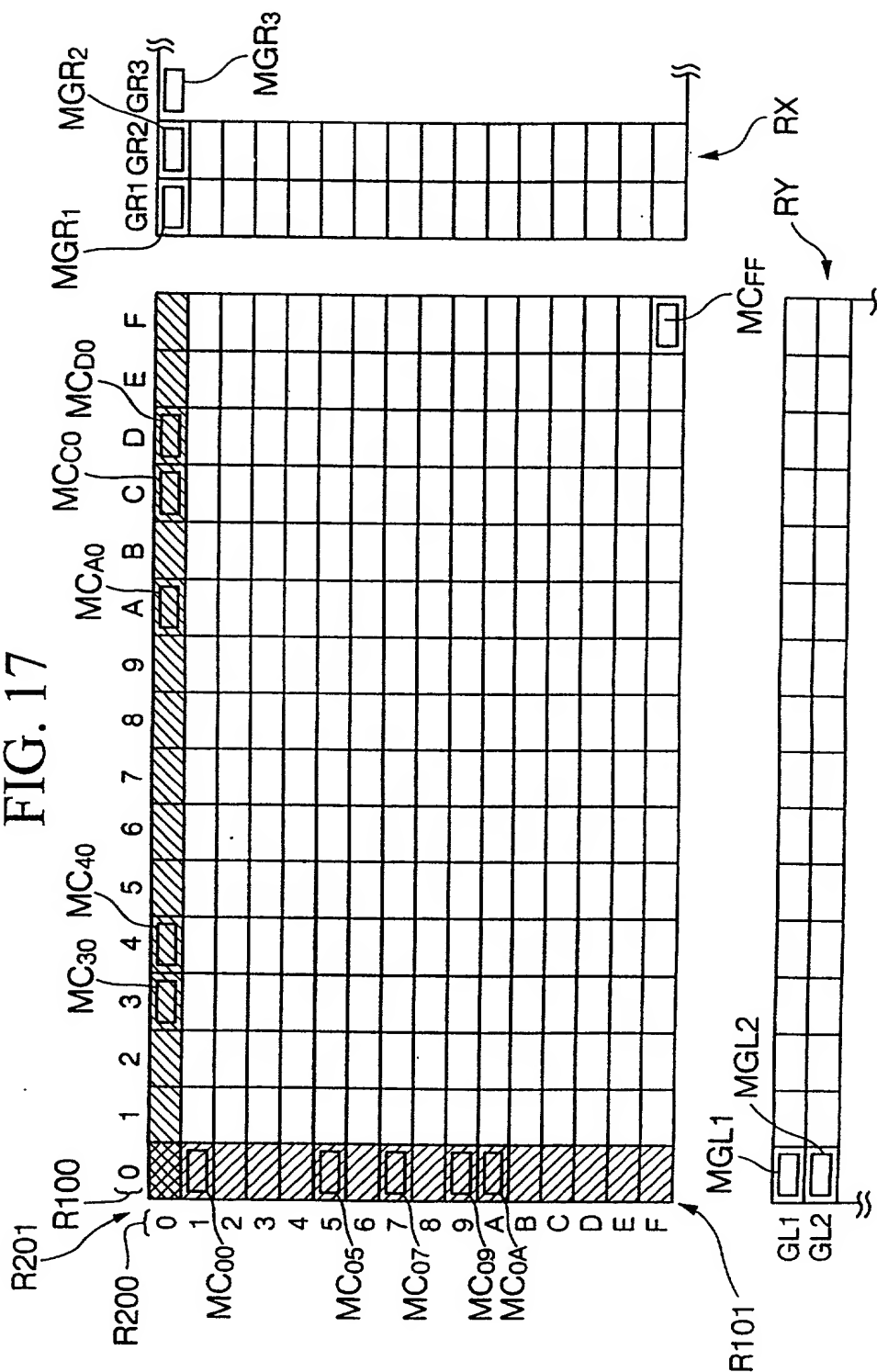


FIG. 18

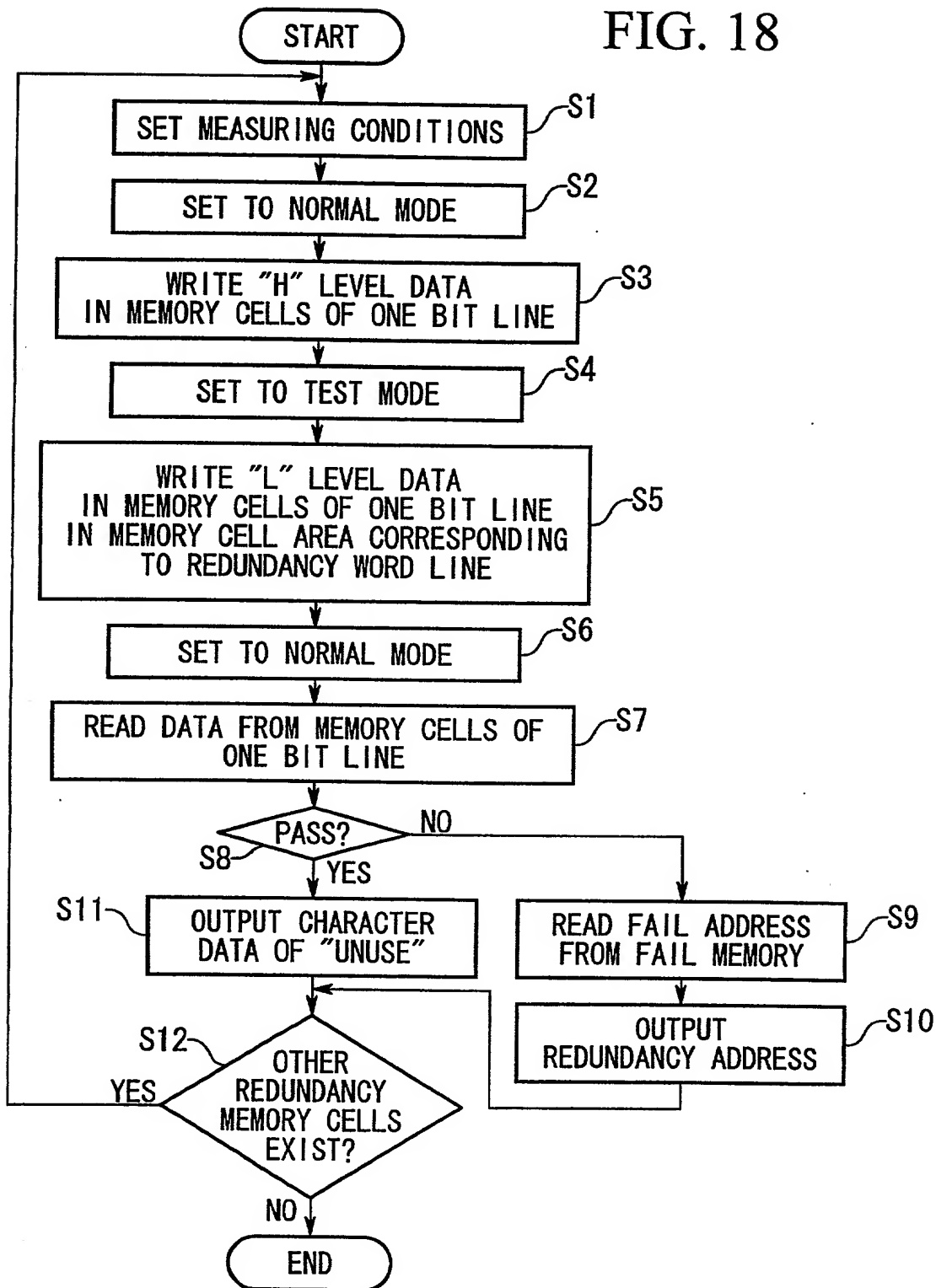


FIG. 19

X-Redundancy RoLL C

FUSE	REDUNDANCY ADDRESS	
F101 ~F108	3	R301
F109 ~F116	A	R302
F117~F124	UNUSE	R303

⋮

Y-Redundancy RoLL C

FUSE	REDUNDANCY ADDRESS	
F501 ~F508	A	R351
F509 ~F516	1	
F517 ~F524	UNUSE	

⋮

FIG. 20

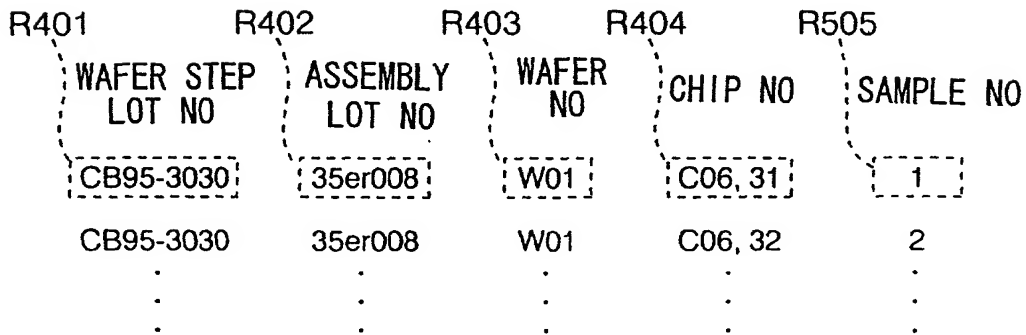


FIG. 21



FIG. 22

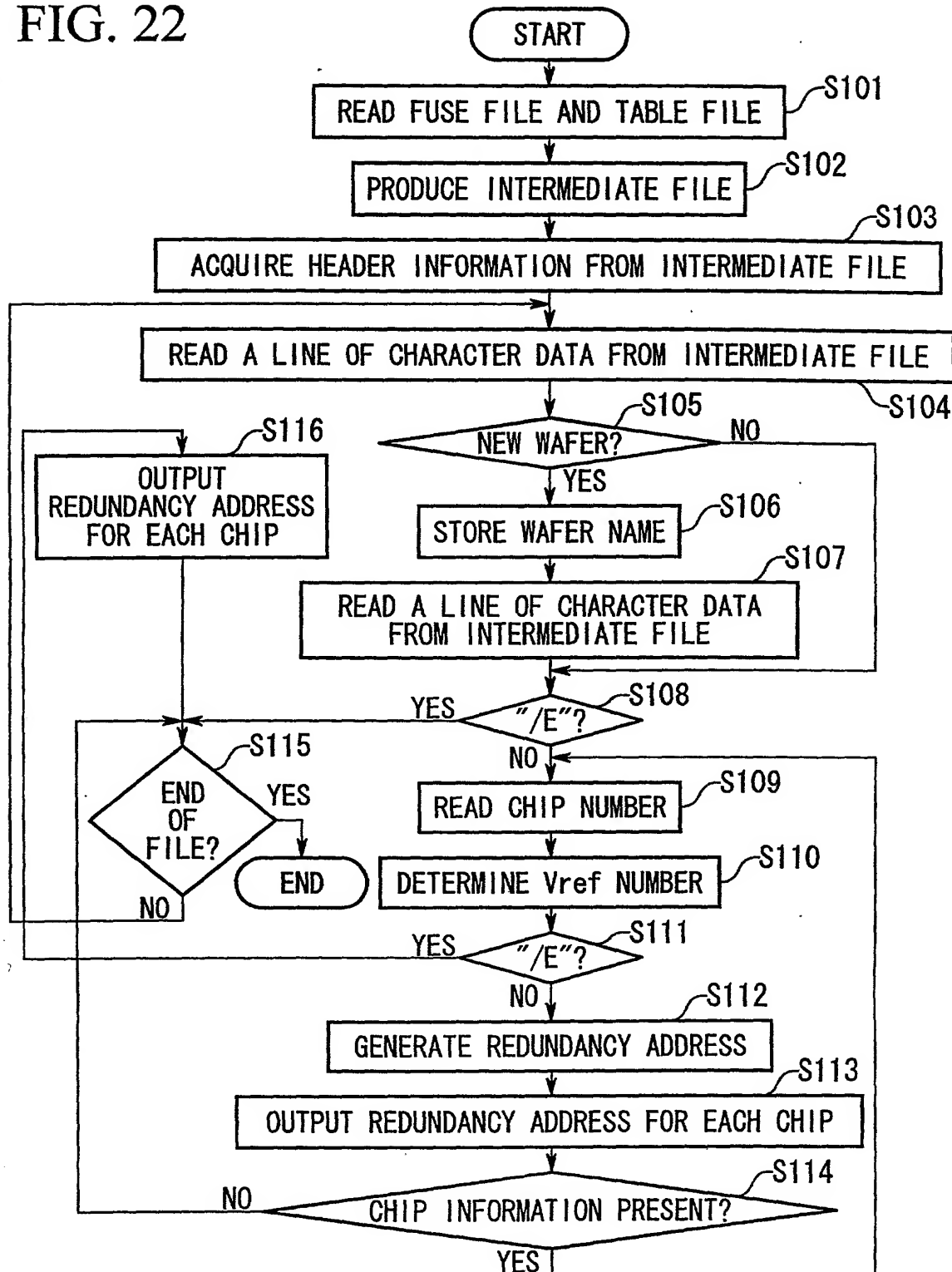


FIG. 23

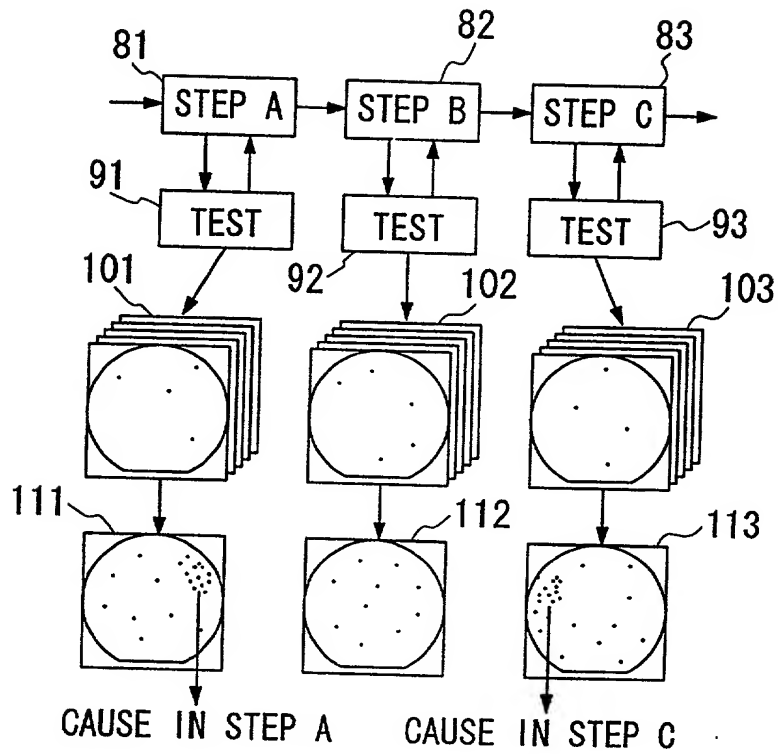


FIG. 24

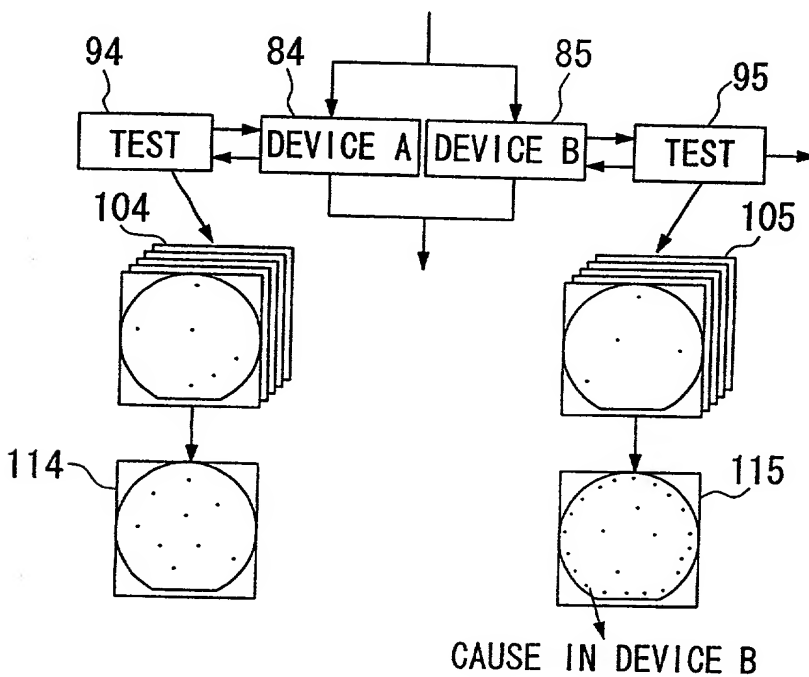


FIG. 25

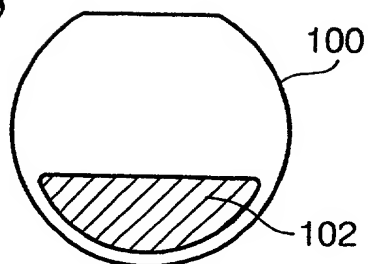


FIG. 26

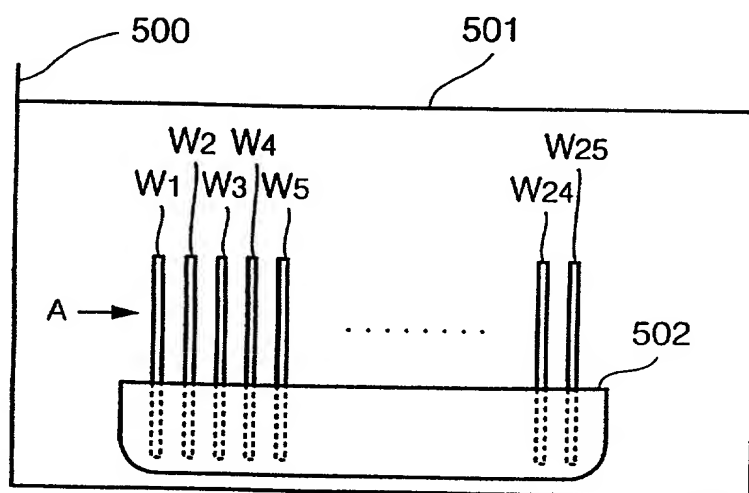


FIG. 27

